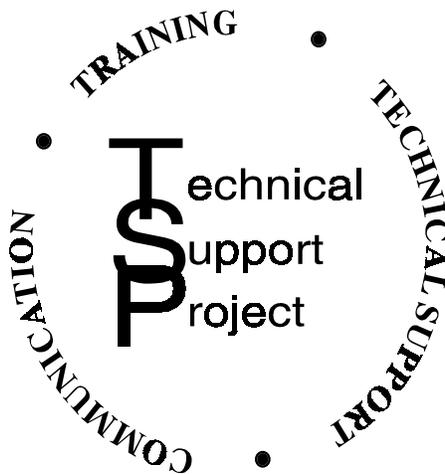


U.S. EPA TECHNICAL SUPPORT PROJECT SEMI-ANNUAL MEETING

BUSINESS SESSION MINUTES

July 28-31, 1997
Ada, OK



U.S. EPA TECHNICAL SUPPORT PROJECT CO-CHAIRS

Engineering Forum:

Steve Kinser, Region 7 • Bob Stamnes, Region 10 • Frank Vavra, Region 3

Ground-Water Forum:

Ruth Izraeli, Region 2 • Herb Levine, Region 9

Federal Facilities Forum:

Meghan Cassidy, Region 1 • Paul Leonard, Region 3
Scott Marquess, Region 7

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ENGINEERING FORUM BUSINESS SESSIONS

Monday, July 28, 1997

Next TSP Meeting

The Engineering Forum discussed the schedule for future TSP semi-annual meetings. Bob Stamnes (Region 10) said that a Summer/Winter schedule appears to work best for the Forums because of budget and travel issues, and that the Forum should plan on holding its meetings in January/February and July/August. Chet Janowski (Region 1) noted that Boston weather can pose travel problems in January, and would prefer to alter the schedule to a November/May. Stamnes then noted that this schedule would work well for Region 10 since the prime construction months in Region 10 are in July and August, making out-of-town travel at this time difficult for OSCs and RPMs. Frank Vavra (Region 3) noted that many Regions have problems getting travel approved in November because of budget issues and that all three Forums have to agree as a whole, not as Regions or individuals, on when to hold the meetings.

Steve Kinser (Region 7) suggested that the next TSP meeting be held in partnership with the University of Waterloo in Canada. A few Forum members noted concern over getting travel to Canada approved. Bob Wilkinson (Region 6) said that his Region would never approve travel to a TSP meeting in Canada.

Stamnes asked whether the Forum could change its meeting goal from increasing its own technical expertise to offering technical expertise. Wilkinson noted that this would fit in with Region 6 and 9's Border Project, which needs assistance from infrastructure engineers. Kinser noted that many of the Regions would not be willing to offer technical expertise because it would require a lot of Regional staff time. Vavra noted that Regional management probably would not support the idea of the Forums offering technical expertise because it would not benefit the Regions directly.

Co-Chair Elections

Kinser noted that Stamnes's term as co-chair has expired and that it is time for the Engineering Forum to elect a new co-chair. Kinser noted that the Forum has never had a formal election process and that he has heard some feedback that the current process inhibits opportunities for non-incumbents to break-in.

Vavra noted that potential co-chairs should be aware of the time investment required of Forum co-chairs. Vavra noted that a large amount of his time is devoted to Forum activities, which sometimes gets in the way of his Regional work. He said that having three co-chairs rather than two helps overcome this, but that it still can be quite time consuming. Janowski suggested that the Forum consider implementing a process where there would be two permanent co-chairs and a third co-chair position that would rotate by region. Vavra said that he did not think such a process would work because of the time and dedication required of co-chairs.

After some discussion, the Forum members agreed that, since most Engineering Forum members were not present, co-chair nominations would be received during the first two weeks of August and the co-chair election would be conducted the last two weeks of August. Self-nominations will be accepted. After all nominations are received, Edie Findeis, EMS, Inc., will develop a ballot form, which will be sent out to all Forum members.

Each Region will be given two votes that can be split up any way the Region chooses. For example, a Region with three members can either collaborate and make two votes for one candidate, collectively split their two votes for two candidates, or choose to vote separately, with 2/3 of a vote per member.

To keep things confidential, the Forum agreed to conduct the election through Edie Findeis at EMS. If you wish to nominate yourself or someone else for co-chair, please e-mail your nominations to Findeis at efindeis@emsus.com by August 19; Bob Stamnes has already nominated himself for reelection. EMS will e-mail everyone a ballot with the nominees and all members will be given until August 29 to vote.

Conference Calls

The Forum decided to reformat their conference calls. From now on, Technical Issue Topics will be the first discussion topic on each call. This decision was made to attract more participation by non-Forum members.

The August Engineering Forum call is canceled. The next call will be held on Wednesday, September 3, 1997.

TSP Website

The Forum discussed the TSP website. The following decisions were made:

- All Engineering Forum papers should be made available on the site in Adobe PDF Reader format as soon as possible. (PDF format enables viewers to read the paper as it was originally formatted on the screen and print it directly from the site without having to download it. It also ensures that someone will not be able to edit the paper and distribute it for another purpose.)
- The site should include the Forum's "Roundtable Notes" in PDF format.
- Forum teleconference information will remain on the site, but the teleconference phone numbers will not be included.
- All TSP membership lists will include e-mail addresses with hypertext links so that members can be directly accessed through e-mail from the site.
- Forum members will provide EMS with a list of reference documents and information available on the web. EMS will include this information on the site with links so that viewers can directly access these sites directly from the Engineering Forum site.
- The discussion group will be deleted from the site because of concerns about maintaining it and who would be responsible for answering questions uploaded on it.
- A counter will be added to the site so the Forum can track how many people visit the site.
- A feedback link will be added so that people can make comments on the site (*i.e.*, inactive links) directly to EMS.
- The Forum may want to consider including EPA's presumptive remedies documents or links to these documents on the site.

General Discussion

Vavra noted that while new technologies are interesting, the Forum should focus more on technologies that currently are being used in the field. He then noted that it is a contradiction that the Forum keeps asking ORD for more applied research, but appears to be more interested in newer technologies; this defeats the purpose. He then noted that the Forum

should direct its attention toward solving problems associated with treatment technologies such as treatment technologies such as eroding caps, materials handling, methane control systems, methane removal, listed waste, and carbon absorbers in the back of strippers. Kinser noted that all of these issues would be good Roundtable topics. Vavra said that once per quarter, the Forum could consider discussing these issues in depth on a teleconference. Rich Ho (Region 2) suggested using other high-tech ways to discuss these topics, such as videoconferencing or internet chat rooms.

Kinser said that he subscribes to a ground water listserv and often forwards this information to other people in his Region. For example, he received listserv information on funnel and gate trenching that he forwarded to all RPMs in his Region. He noted that he received feedback on this information and does not know why the Forum could not receive feedback on its issues.

Thursday, July 31, 1997

Future Roundtable Discussions

The Forum agreed that the set-up of future Roundtable discussions will depend on the size of the Panel and the audience. Vavra said that he would prefer for future Roundtable Panels to include a smaller percentage of contractors, noting that he felt the panel was reluctant to speak on some of the issues and that some of the discussion was biased.

Steve Kinser suggested that the Forum form a Subcommittee to plan the next Roundtable discussion. He then noted that he would like the Roundtable minutes to specifically state that the comments made during the discussion were from "thermal desorption contractors." He added that he would like to ensure that comments about Agency problems be excluded from the minutes.

Next TSP Meeting

Stamnes noted that Herb Levine (Region 10 Ground Water Forum member) is going on detail to Hawaii and would like to plan the next meeting there in partnership with the State. He then noted that Hawaii has a lot of problems with pesticide contaminated aquifers. Most Forum members agreed that they would never get approval to travel to Hawaii, even if all travel expenses were covered. Vavra then noted that the Federal Facilities Forum is interested in holding the next meeting in sponsorship with the Idaho National Engineering Laboratory, but acknowledged that travel to Idaho Falls also could be problematic and very expensive. Vavra then noted that the next meeting could be held in conjunction with another conference and agreed to look into future conferences and get back with the Forum. He then suggested that the next Engineering Forum-led meeting could be held in Baltimore with presentations from personnel at Aberdeen Proving Ground. Janowski noted that a Baltimore meeting would draw Headquarters personnel to the meeting. A review session could be scheduled to evaluate how the Forum is serving the Technical Support Centers and ORD coordination. Stamnes suggested coordinating a future meeting with a Military Centers of Excellence meeting.

Issues Papers

Kinser noted that the Engineering Forum needs to decide how to move forward with its Issue Papers. Bob Stamnes reminded everyone that while publishing an Issue Paper takes a lot of time and effort, publishing can help lead to a promotion or increase in grade level.

The Forum then presented potential topics for the next Issue Paper:

- RD/RA Cost Estimating
- Post Remedial Action Compliance Monitoring
- Translation of ARARs
- Air Modeling
- Basic Construction Issues, *i.e.*, trenching
- Construction Failure Analysis

After some discussion, the Forum decided to develop an issue paper on Post-Construction Compliance Monitoring related to caps. It was also suggested to hold the next Roundtable discussion on this topic as well. Chet Janowski, Bob Stamnes, Neil Thompson, Bill Rothenmeyer, and Mary Beck agreed to work on this paper.

The Forum agreed to compile a list of resources for the Engineering Forum Home Page. This could include a bibliography list as well as web pages of interest to the Forum. The Forum agreed to form a Subcommittee to address this issue.

Stamnes agreed to call Rich Steimle to inquire about EPA's national work groups and whether any of the workgroups need members. John Delashmit (Region 7) noted that typically the workgroups send requests about membership to Division Directors who then appoint someone from their Region. Kinser said that it would be helpful for Steimle to "sell" the Forums as a resource valuable to Headquarters and the Regions.

Engineering Forum agreed to not review the Waste Research Strategy.

FEDERAL FACILITY FORUM BUSINESS SESSIONS

Monday, July 28, 1997

Natural Attenuation

Scott Marquess (Region 7) distributed a "Natural Attenuation Discussion Outline" for review and comment. He intended to use as an outline for the ORD/Forums session on natural attenuation coordination the next day. Marquess noted that Headquarters and the Regions have raised questions about the role assumed by the Ada laboratory with regard to the Air Force and other agencies that are proposing natural attenuation as a preferred remedial option. He said that the concerns were not raised during a teleconference held in April with the Federal Facility Leadership Council (FFLC) and the Ada laboratory, and he suggested that the people with the greatest concerns simply did not speak up. Meghan Cassidy (Region 1) said that the problem was raised at the St. Petersburg meeting in February, which the FFLC heard about. FFLC asked for specific issues, but received no response. She said that the Federal Facilities Forum asked RPMs to identify situations where they felt ORD and the Ada laboratory were a source of conflicts for the Regions, and Marquess added that the e-mail soliciting these problems received little response.

Craig Thomas (Region 5) and Nancy Morlock (Region 6) indicated that they are unaware of any mechanism in their Regions whereby the RPMs are notified if Ada or any other laboratory is working on an NPL site in their Region. Paul Leonard (Region 3) felt that the Air Force may have misrepresented some technical information at their sites and used Ada's research at the sites to imply EPA endorsement of their position, thus undermining the

Region's negotiating position. Cassidy concurred, noting that even if ORD laboratories are working at a site conducting pure research, they must understand that the research results could become part of the remedy selection process. The Air Force is not interested in pure research. Leonard said that the Air Force has a policy bias for "no action" alternatives. Any EPA actions such as research on natural attenuation that lends support to a "no action" alternative must be brought to the RPM's attention. Doug Bell (OSWER/FFRRO) said that EPA and DOD have agreed that cleanup decisions at military sites would be made jointly with EPA and other stakeholders; if an EPA laboratory is conducting research at the site, they must be in communication with the Region.

Cassidy stressed that without advanced coordination between the RPM and the laboratory scientists, research results obtained for purely scientific reasons but later introduced by the Air Force in support of decision-making may fail to meet basic tests of acceptability as outlined in the NCP. For example, she said that data quality objectives (DQOs) that scientists use to support research may not cover the ways that the Air Force wants to use the data, creating a situation where the Region may have to reject EPA-generated data. Such a situation would be embarrassing to the Agency and raise doubts among other stakeholders.

Marquess suggested that Ada be invited to brief the Forums on their working relationships with other agencies and how the laboratory views their "customers" and whether there is an inherent conflict for an EPA laboratory to accept funding to support a position or process that may conflict with established Agency policies or practices relating to remedy selection. Bob Mournighan (Region 7) made it clear that these concerns are not limited to Ada, but should be addressed to all ORD laboratories and centers.

Bell asked if OERR has taken a position with respect to the science or applicability of natural attenuation at federal facility sites. He was told that EPA will consider developing its own guidance instead of adopting the Air Force Center for Environmental Excellence (AFCEE) protocol that Ada prepared. Bell noted that EPA policy stresses long-term reduction of toxicity and mobility through active treatment.

Only about 20 percent of sites under the Formerly Used Defense Sites (FUDS) program that require cleanup are on the NPL. There is no evidence that a uniform approach is under development, but "no action" alternatives will be a strong DOD preference. Cassidy pointed out that the Air Force has disseminated guidance mandating the use of natural attenuation as the preferred option for virtually all contaminated sites. There is no screening involved under the Air Force approach. Under the NCP, EPA must review a range of options and balance them according to the set of nine criteria; the Air Force wants EPA approval based solely upon the natural attenuation option.

Leonard said that DOD must be set a strong message that they cannot use EPA laboratories as a lever against Regional decision-making, and that natural attenuation is not a presumptive remedy regardless of Ada's research involvement. Jim Barksdale (Region 4) said that his Region has had problems with the quality and defensibility of data collected by Ada scientists, which the Air Force later used to support remedy selection. He said that the scientists do not follow prescribed standard operating procedures (SOPs) for data to be used the way the Air Force is using them. Region 4 is trying to develop defensible SOPs where they do not exist. Bell added that the AFCEE monitoring data protocols are inadequate, since monitoring is a major component of total costs. Craig Thomas agreed, noting that without established monitoring protocols, it is impossible to tell if the remediation is working properly.

Jon Josephs (Region 2) said that several Regional people met in Ada in early July to review the AFCEE Natural Attenuation Protocol. He added that John Wilson told him that the changes identified at the meeting have been incorporated. Cassidy had heard that significant “philosophical” differences still remain between the Air Force and EPA positions. For example, the Air Force does not consider ground water a protected “resource” because they feel that they own it. Bell reported that the Air Force announced in March that they anticipate saving over \$640 million in future costs by eliminating enhanced long-term monitoring.

Cassidy said that the ORD laboratory in Cincinnati also released a draft natural attenuation protocol without advance consultation with the Regions. Natural attenuation is so popular that there are many separate forums addressing it with no overall coordination. She said that the Corps of Engineers and perhaps the Navy are considering adopting the AFCEE matrix for their sites because they think it has EPA’s endorsement.

Cassidy suggested that in the next day’s joint session, she ask Ada to explain their process for interacting with other agencies and who they consider their “customer” at such sites. She also proposed summarizing the RI/FS process and the concepts of the range of alternatives, since research scientists may not be familiar with the NPL process. Finally, she would present the nine NPL criteria and explain that the Air Force guidance for natural attenuation as a presumptive remedy is consistent with the Superfund process. She concluded by noting everyone’s desire to work smoothly with the DOD services and the importance of Ada’s research role, but stressed that the laboratory must coordinate in advance and continuously with the Region. She felt that such coordination would also benefit the quality of the science.

Bell expressed concern that since most sites under the Base Realignment and Closure (BRAC) program are not on the NPL (and thus not subject to the Superfund process), there is no uniform method to ensure that options aside from natural attenuation are considered. There may be different standards for every site. He added that the BRAC program is under pressure to transfer properties as soon as possible—even before cleanup. Bill Roach (Region 2) pointed out that cost effectiveness will be the most important criterion at DOD sites. He added that much of the criticism he heard about the misuse of data should be addressed to the Air Force rather than to the Ada laboratory—ORD does research; they are not the ones making the cleanup decisions. Cassidy felt that the Regions need to coordinate with Ada because the DOD services often do not provide adequate review time or sufficient information on DQOs for EPA Regions to make informed decisions—they act secretive. Thomas and Leonard added that coordination would also protect Ada from criticism if the Air Force misuses their research—the laboratory could be warned by the RPMs to insert explicit limitations or conditions of use into their reports, which might prevent their intentional misuse. Marquess said that there are mutual benefits for Ada and the Regions from Ada’s research; they just need to consider the program-wide implications of how their results will be used by the services.

Bell asked what the Ground Water Forum’s position was on the AFCEE protocol. Leonard said that they were in general agreement with the Federal Facilities Forum. However, since not all Ground Water Forum members deal with federal sites, they do not seem to have as strong a position. Cassidy added that there does not seem to be a consensus in the Forums on the science behind the AFCEE protocol. Thomas said that the protocol was written by microbiologists and lacks a good hydrogeological perspective.

Cassidy suggested that the laboratories should have established guidelines for how they operate at federal sites. The Forums should not seek to control ORD's activities at these locations, but the Forums and laboratories should work together to avoid miscommunication. Cassidy added that the Forums might draft a strawman guidance for the laboratories to consider adopting. These guidelines should not be limited to natural attenuation.

Co-Chair Elections

Leonard proposed that the three co-chairs, each of whom were appointed last year, serve for staggered three-year terms. Thus, one would serve for one more year and one would serve for two more years. He proposed an election next summer, and the existing co-chairs (Leonard, Marquess, Cassidy) would decide among themselves who would serve for the one-, two-, and three-year initial terms. Nominations would be accepted at the winter meeting next January or February. The members agreed to this proposal.

Federal Facility Leadership Council Update

Leonard reported that the FFLC meeting in Seattle went well, and there was a good showing on the Federal Facilities Database Survey.

The next FFLC meeting will be in Boston, and will be devoted mainly to the preparation of the next DOD/EPA joint session in mid-August. The Federal Facilities Forum is not on the agenda. The FFLC agenda will cover lead-based paint, evaluation of workload updates for BRACs; next month's joint session with DOD on working together for accelerated cleanups and munitions, unexploded ordnance, and FUDS.

Site Inventory Database

Leonard urged members to send in their survey forms if they have not done so. The surveys will be on the TSP Home Page, which is available for review on-line (<http://clu-in.com/tsp/tsp.htm>). Comments on the Home Page should be sent to Edie Findeis at EMS. Marquess said that the survey form should be updated to include the remedy selected for the site.

Formerly Used Defense Sites (FUDS)

Marquess said that Regions 3, 7, and 10 (at least) are spending considerable time on non-NPL sites, and their associated staff workloads are not being addressed. There are no funds available to the Regions for working on non-NPL FUDS. He said that there are two issues: how to get the Corps of Engineers to address these sites in a manner consistent with CERCLA; and how to overcome the lack of resources needed to assist states provide meaningful oversight. A workgroup was formed to address these issues, chaired by Nancy Harney of Region 10. Anyone interested should contact her to get involved.

Thomas asked if the Forum should conduct a survey to identify all FUDS by Region. Doug Bell thought it would be useful. There is a \$1.2 million FY98 budget proposed for EPA oversight of non-NPL FUDS. Bell said that FFRRO was seeking Regional advice on how the funds should be used.

Bob Mournighan (Region 7) distributed ORD's July 1 *Request for Sites to Host Demonstrations/Evaluations of Innovative Technologies for Hazardous Waste Cleanup*, including a host site application for the Superfund Innovative Treatment Evaluation (SITE) program. He commented that this solicitation was distributed with no advanced notice to the Regions.

Action Items

- 1) Leonard will e-mail to all Forum members the minutes of the Seattle FFLC meeting.
- 2) The Federal Facilities Forum was tasked by the FFLC at the Seattle meeting to put together a position paper outlining the issues. Marquess will distribute a draft to Forum members for review and comment.

Thursday, July 31, 1997**Sampling Design and Analytical Methods for Explosives in Soil**

Dr. Tom Jenkins of the Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL) presented a methodology for field analytical characterization of explosives based on colorimetry that can reduce analytical costs while improving the representativeness of samples. Jenkins explained that munitions residues in soils are not homogenous, and it is very difficult to obtain representative samples. Traditionally, a site was divided up into grids, and samples taken from the grids were assumed to be representative. Cleanup decisions were made based on these samples, which resulted in frequent over- or under-estimating the real average concentrations. The objectives of his study were:

- to characterize short-range heterogeneity of the explosives residues and debris;
- to estimate the relative contributions of sampling and analytical error to overall uncertainty; and
- to develop an approach for obtaining representative samples in non-homogenous situations.

Jenkins characterized explosive residues as falling into three classes: nitroaromatics (such as TNT); nitramines (such as RDX and HMX); and nitrate esters (such as nitroglycerin). Explosives are organic chemicals that are solid at ambient temperature. They exhibit a very slow rate of dissolution in water and are typically non-volatile. Consequently, persist in the environment for decades. Most explosive residues and debris occur at the soil surface. He noted, however, that while RDX has a very low solubility, once it is dissolved it is highly mobile and can occur in plumes away from the source. Depending upon the physical size of the source, it could take hundreds of years for the munitions to attenuate completely.

Jenkins summarized his research at 11 sites in five bases throughout the U.S. and in Quebec. The sites included ammunition manufacturing facilities and firing ranges, and spanned a variety of physical types from lagoons to open burning pits to drainage ditches. He took seven soil samples spaced evenly around a 1.2 meter circle and in its center, and subjected them to on-site colorimetric testing for TNT/DNT and RDX/HMX residues. At each site, he analyzed the samples separately and blended into a composite sample. He also analyzed the samples in the laboratory using the SW-846 Method 8330 and with CRREL's HPLC.

He said that the color of the analyte was a qualitative indication of the presence and concentration of TNT (although not for RDX). He used the EnSys colorimetric test for TNT and the Picric Acid test for RDX. The colorimetric tests were based on the chemistry first described by Janowski in 1886.

He found variations of two orders of magnitude across the samples within the sampling ring, noting that any single sample could have been used as the basis for cleanup decisions under traditional sampling methods. While the HMX samples were not as variable, regardless of contaminant, there was spatial heterogeneity to an extent that could have resulted in

misinformed cleanup decisions. He showed that the standard deviation of the samples exceeded the mean, which implied that the distributions were not normally distributed and the mean is not a good indicator. He concluded that composite sampling is a better method to characterize sites. Jenkins compared on-site colorimetric results with laboratory HPLC analyses, and reported extremely close correlations over five orders of magnitude in concentrations of TNT.

Jenkins said that he determined that there was nine times more error associated with sampling variation as compared with analytical variation, which means that more care should be taken with sampling than with analysis. Doug Bell (OSWER/FFRRO) asked if there was any difference between ammunition plants and firing ranges, and whether the results had been communicated to the Army Environmental Center. Jenkins said that ranges have not been well characterized, but generally concentrations are lower at ranges than at ammunition plants. The heterogeneity is present at both. Since AEC had sponsored much of his research, they are presumably aware of the results.

A subsequent phase of his research was intended to document mid-scale heterogeneity of the residues; determine the reliability of the RDX/HMX test at an active firing range; and to document the effectiveness of homogenizing discrete samples to overcome variation among discrete samples. This research occurred at the Canadian Forces Base in Valcartier, Quebec, where the principal weapon is the light antitank weapon (LAW) that has a TNT warhead and HMX-based propellant.

Jenkins used 6 m² grids, divided into quarters, and scraped off the surface. He used a similar liquid-extraction method to produce samples for colorimetric analysis in the field. The chemistry was again based upon nineteenth century chemistry on azo dyes. In response to Bell's question, Jenkins explained that there were no "chunks" of munitions in the soil. The SW-846 Method 8330 confirmed the on-site colorimetric technique, and he reported excellent correlations between the colorimetric results and the HPLC.

His results showed a good relationship between the mean of the samples in the grid and the concentrations of blended samples. He reported that TNT concentrations were two orders of magnitude less than HMX concentrations, which suggested that some undetermined process was selectively removing TNT or concentrating RDX. He stressed the need to split samples carefully, because their heterogeneity may mask analytical results.

He compared costs of the Method 8330 analysis—\$337 per sample—with \$91 per composite of 7 samples using field colorimetric techniques.

In conclusion, Jenkins reported that both TNT/DNT and RDX/HMX colorimetric analyses provide results equivalent to standard laboratory techniques; that the traditional reliance on discrete samples results in large uncertainty; that sampling errors far exceed analytical errors; and that homogenization of discrete samples results in a very efficient, reproducible methodology.

Bell asked about the likely applicability of his technique to range impact areas and buffer zones. Jenkins replied that he was asked to look at the impact area at Fort Ord, a BRAC site. He is trying to determine the reliability of his methods where there is a lot of physical debris. These areas are also much larger in size than ammunition plants. There is some historical uncertainty associated with the position of targets, which are moved from time to time. He stressed the need to characterize the site first, especially because of their immense size, in

order to develop a sampling plan. Jenkins added that the colorimetric tests for TNT and RDX provide qualitative screening for the presence of virtually all explosive chemicals. Harry Craig (Region 10) said that the colorimetric testing also eliminates the costs and problems associated with laboratory “non-detects” that often take several weeks: you can determine whether explosives chemicals are present quickly and cheaply, thereby expediting site characterization. Bell explained that he was emphasizing ranges because AEC plans limited data collection at them, and the heterogeneity of the chemicals will introduce the high uncertainty of these sites.

In response to another question, Jenkins said that RDX mineralizes very slowly to CO₂, with most of the residue binding to humic matter in the soil.

Evaluation of On-Site Analytical Methods for TNT and RDX in Compost Residues

Composting is an emerging ex-situ solid phase biological treatment technology for degrading semi- and non-volatile organic compounds in soil, particularly nitroaromatic and nitramine explosive compounds. Due to the relatively short treatment duration of 10 to 40 days, real time, on-site analytical methods may be useful for both pilot and full scale process monitoring. A field demonstration was conducted to assess the performance of on-site analytical methods for explosives TNT and RDX in compost residues during full-scale composting at the Umatilla Army Depot Superfund site in Hermiston, Oregon. A goal of the study was to evaluate bias, precision, and accuracy of the data sampling and analyses.

Compost samples were analyzed by each of the on-site methods and these results were compared to EPA SW-846 Method 8330 laboratory analysis using high performance liquid chromatography (HPLC). The on-site methods evaluated include the EnSys TNT and RDX colorimetric test methods (EPA SW-846 Methods 8515 and 8510), with and without organic matrix interference cleanup (OMC) steps, and the DTECH TNT and RDX immunoassay test methods (EPA SW-846 Methods 4050 and 4051). All analyses were conducted from a single acetone extract in an effort to reduce the effects of soil heterogeneity. Accuracy of the on-site methods were evaluated using linear regression analysis and relative percent difference (RPD) comparison criteria. Over the range of conditions tested, the colorimetric methods for TNT and RDX with OMC steps showed the highest accuracy. Significant differences were noted for samples run by the colorimetric methods with and without the OMC steps. The immunoassay TNT and RDX methods also showed reasonable accuracy for analysis of compost residues.

Craig concluded that colorimetric soil methods without cleanup steps exhibit low bias and accuracy compared to HPLC laboratory results. Colorimetric methods with organic matrix cleanup steps show good bias, precision, and accuracy compared to HPLC laboratory results. Immunoassay methods without organic matrix cleanup steps show good bias, reasonable precision, and reasonable accuracy compared to HPLC methods. The heterogeneity of explosives concentrations in solid matrices (soil, compost) contribute the major portion (~90%) of total error in sampling and analysis. There is potentially large variation in the composition of amendments used for composting. Significant organic material and biological activity in compost matrix may affect analytical accuracy of on-site methods. The use of on-site methods for bioremediation monitoring has considerable merit, producing real time data at lower cost.

He recommended modifying on-site soil methods to analyze compost residues; using organic matrix cleanup steps with colorimetric methods; performing additional evaluation of the colorimetric RDX nitrate removal step to overcome apparent inconsistencies; comparing on-

site analytical and laboratory analytical methods only on a site-specific basis; and performing pilot-scale treatability studies to evaluate the performance of on-site analytical methods. Additional testing of compost mixtures will be conducted for the pilot-scale composting trials at the Naval Surface Warfare Center (NSWS) site in Crane, Indiana.

Issue Paper Discussion

Scott Marquess (Region 7) said that issue papers provide information that RPMs need routinely that is not otherwise easy to obtain. He noted that the Forum had last discussed issue papers in August 1996. The potential topics generated were: Explosives Fate and Transport; Ground-Water Screening; Unexploded Ordnance (UXO) Relationship with Explosives Contamination; Metals and Explosives; Safety Issues in Sampling at UXO Sites; Integrated Site Assessments; Qualification Criteria; and Data Quality versus Quantity. In addition, Harry Craig (Region 10) distributed an outline for a proposed issue paper on *Field Sampling and Selecting On-Site Analytical Methods for Explosives in Water*.

Marquess explained that there were no funds available at the time of the St. Petersburg meeting in February. Ken Brown (ORD/NERL/CRD/Las Vegas) indicated his Center's willingness to proceed with one of the issues, and pointed out that he has already prepared an outline for one on *Fate and Transport of Explosives in Soil at Federal Facilities*. Brown felt that considerable information already exists for this topic, which might keep the cost down. However, he was comfortable with any of the candidate topics.

Paul Leonard (Region 3) asked what the process would be, and Brown outlined the steps: the Forum picks a topic; he would provide a detailed outline to whomever the Forum selected as the lead contact; they would negotiate changes to the outline; the TSC would draft and forward an outline; and the TSC and the Forum contact would exchange comments and revisions until everyone was satisfied.

Marquess circulated a recent technical report published by the Corps' Waterways Experiment Station, entitled *Fate and Transport Processes of Explosives* (Brannon, J.M. and T.E. Myers, Technical Report IRRP-97-2, March 1997), and suggested that Carol Witt-Smith's issue may be adequately addressed by this document. Harry Craig said that the WES report was more research-oriented, and might not go into the practical details that the RPMs need. Marquess suggested that since the Forum has already produced an issue paper on field sampling for explosives in soil, there might be a value in preparing a companion paper for water where there may be less information readily available to RPMs than for fate and transport.

Leonard recommended accepting Craig's proposal for field sampling and screening for explosives in water, and tabling Carol Witt-Smith's proposal until the next Business Session in January or February to see if there would be additional funds available from TIO. Ken Brown agreed that they will know next January or February if additional funds will permit proceeding with the Fate and Transport issue paper.

Doug Bell (OSWER/FFRRO) reported that he is working on an issue paper on UXO. He said there are problems separating technical issues from policy implications. He has comments from Harry Craig and hopes to be able to distribute a draft to the Forum for general review shortly. Craig agreed that assessing UXO risks comprehensively (*i.e.*, covering both technical and policy issues) is a pressing need. Lawsuits and the potential revision of the range rule are adding to the pressure. Jefferson Proving Ground and Fort Ord are examples of "worst-case" complex sites that should be addressed in FFRRO's draft issue paper.

Institutional Controls

Paul Leonard reported that the “Esquires Group” of attorneys of the Federal Facilities Leadership Council are discussing institutional controls. They intend to produce guidelines about the enforceability of institutional controls including deed restrictions at federal facility sites. The conventional wisdom that federal facilities cannot promulgate deed restrictions because there is no deed may not be accurate. At BRAC sites, it is often the city that does not want the deed restriction. Leonard encouraged Forum members to talk to their Regional Esquire contact.

Harry Craig asked if “dirty transfers” can only occur if the state agrees. Meghan Cassidy (Region 1) replied that the decision resides with the state governor—alone if the site is not on the NPL, and in conjunction with EPA if the site is on the NPL.

Jim Kiefer (Region 8) said that deed restrictions are very difficult to enforce, especially for smaller cities. The consent of the lender is required and the property owner often needs to place the deed restriction. Craig said that the Navy has worked restrictions into the Master Planning Document instead of individual deeds. Leonard and Cassidy agreed that this was a better alternative, and more analogous to what is done at PRP sites.

Superfund/RCRA Training Implementation Network

Leonard distributed a summary of the *Superfund/RCRA Training Implementation Network* (SR TRAIN), a new multi-office team focusing on training issues. SR TRAIN is intended to ensure that training products throughout OSWER or on behalf of OSWER contain a consistent message and correctly reflect current policies. SR TRAIN will also identify expert panels to consider the appropriateness of training to the needs of RPMs and OSCs. Kim Fletcher of the Community Involvement and Outreach Center of OERR is coordinating it, and Leonard is on it. SR TRAIN meets the third Thursday of every month. The next meeting is August 21.

Remaining Issues

Marquess reminded the Forum of the informal agreement to compile lists of all RPMs and OSCs for easy ORD identification of contacts at all Superfund sites—not just for federal facilities.

Leonard urged the Forum members to review the TSP Home Page (<http://clu-in.com/tsp/tsp.htm>) not only for existing contents but for general organization, format, and ideas of what else should be on it.

There was some discussion on the quality control of the site inventory, and the Forum members agreed that the site inventory database should be available only to EPA employees until the Forums could discuss the QA/QC issues further. The database needs a number of changes, and Leonard asked all members to turn in their survey forms as soon as possible if they have not done so already.

Action Items

- 1) Forum members are to consider the list of priorities and issues in the handout and get back to Paul Leonard by August 15 with ideas.
- 2) Marquess agreed to talk to Bob Mournighan and coordinate the preparation of the list with the Forum, to the extent the Forum will be involved.
- 3) Forum members should get their comments on the TSP Home Page to Edie Findeis.

- 4) There will be a Forum conference call on August 13. Leonard will invite Fran Kremer to participate to discuss soils and sediments natural attenuation, and to follow up with the communications strategy. Leonard will ask Steve Mangion of ORD's Office of Science Policy to participate.

FEDERAL FACILITIES AND GROUND-WATER FORUMS JOINT BUSINESS SESSION

Monday, July 28, 1997

**ORD/Program/
Regional
Communications**

The Ground Water and Federal Facilities Forums met to consider their positions relative to the following day's session with ORD to discuss ways to improve communications and avoid conflicts when laboratories conduct research and technical support at Superfund sites.

Scott Marquess (Region 7) introduced the planned session with ORD as an opportunity for the Regions to understand how the laboratories conduct their business with other federal agencies. He added that ORD needs to understand that Regions view other federal agencies as Potentially Responsible Parties (PRPs), not "customers." He suggested that other federal agencies may be playing the Regions and laboratories against each other. Marquess explained that this concern, when raised to the Federal Facilities Restoration and Reuse Office (FFRRO) and the Federal Facility Leadership Council (FFLC), was not convincing because there were too few specific examples of problems. He said that there is a potential for a conflict of interest if the laboratory is receiving funds from the federal PRP.

Marquess distributed a suggested outline of the planned session with ORD. It included opportunities for representatives from the Ada laboratory to describe to the Forums how they conduct business with other federal agencies and whether there might be a conflict in how Ada views both these agencies and the Regions as "customers." The Forums would have an opportunity to provide a brief overview of the RI/FS process, the criteria for FS evaluations mandated by the NCP, and the difference between "legally defensible" data quality objectives in support of remedy selection and pure research. He also suggested that the Forums raise site specific concerns, such as those at Chanute, Wurtsmith, Portsmouth, Plattsburg, St. Joseph, and other DOD and DOE sites. He suggested that the Forums recommend developing a joint communication and coordination strategy with ORD that addresses the Regions' expectations, the appearance of conflict of interest, and the spill-over of research interests that impact regulatory decision-making. Finally, he suggested that the Ground Water Forum lead a discussion on the need for appropriate personnel to be assigned by the Technical Support Centers upon Regional requests for reviews.

Marquess pointed out that the laboratories may not realize that the statutes and policies mandate specific processes and criteria for remedy selection, that DQOs for research objectives may not be adequate to meet the "legally defensible" definition, and that some federal agencies may be misusing ORD's research data by applying it to remedy selection decisions without regard to NCP requirements. Meghan Cassidy (Region 1) commented that a formal agreement between ORD and OSWER/FFRRO would be beneficial both to the Regions and ORD. Cassidy said that the Air Force is treating natural attenuation as a presumptive remedy, and ORD should conduct research that satisfies FS requirements, or else the results cannot be used. With advance coordination, there will be less likelihood of failure to address all regulatory requirements. The DQOs need to be designed in advance to address how the research results will be applied. Dick Willey (Region 1) agreed that ORD and OSWER need to understand in advance how the research results are intended to be used and how they might actually be used, but he felt that the Forums should make it clear that they were not trying to influence where or how ORD conducts its research.

Marquess suggested that ORD be requested to contact the RPM in advance of working at a site and to send to the RPM all interim and final data and reports at least as soon as they are sent to the other agency. Craig Thomas (Region 5) pointed out that Regions have a reciprocal responsibility to provide ORD with the name of a contact at all sites.

Ruth Izraeli (Region 2) said that the Air Force wants the AFCEE Natural Attenuation Protocol, developed by Ada, to be issued as a joint publication. She raised concerns over the current form. Willey felt that there would be advantages to everyone to have a single technical guidance without policy, but doubted that the guidance could be completely free of policy. Bell agreed that it was impractical to try to separate policy from technical guidance. He added that the Air Force wants to avoid a financial commitment to long-term operations and maintenance, and have made this a key goal. Davies pointed out that if a joint document is not issued, AFCEE may release a document that disregards EPA's original comments on the draft protocol. This document will be the only natural attenuation guidance available.

Kathy Davies (Region 3) pointed out that if the Forum does nothing to stop it, the Air Force and ORD will go forward with the joint AFCEE protocol. Jon Josephs (Region 2) felt that since it is inappropriate for EPA to write guidance jointly with a private PRP, it should be equally inappropriate to do so with the Air Force. If EPA tailors a protocol to meet Air Force requirements, private PRPs will expect similar flexibility.

Davies noted that as discussed earlier during the Ground-Water Forum's business session, there are many documents and training courses sponsored by various ORD organizations and other federal agencies. She suggested that the Forums present a list of these documents and courses to ORD and request an explanation of their purpose and of ORD's involvement. The Forums agreed to add the list to Marquess' discussion outline for the ORD session.

GROUND-WATER FORUM BUSINESS SESSIONS

Monday, July 28, 1997

Issue Papers

Ruth Izraeli (Region 2) noted that of the eight action items proposed during the February TSP meeting in St. Petersburg, Florida, only the preparation of a ground-water sampling issue paper is incomplete. Izraeli proposed that the Ground-Water Forum write a one-page list of prioritized research needs annually or biannually for submittal to ORD. She pointed out, however, that keeping track of past Forum correspondence has been difficult because co-chairs change and there is no central repository for their correspondence. She asked whether EMS, Inc., could maintain the repository. Diane Dopkin (EMS, Inc.) said that EMS can archive electronic copies of the correspondence received.

Forum members discussed the confusion associated with the terminology "Ground-Water Issue Paper" and "Ground-Water Forum Issue Paper." Izraeli mentioned that although she has a copy of a report entitled *Ground-Water Issue Paper*, the first line of the report refers to the Ground-Water Forum, which did not write or endorse the paper. Jon Josephs (Region 2) pointed out that the issue paper was not published with TSP funds. Izraeli referred to a second issue paper entitled *Natural Attenuation of Hexavalent Chromium* in which the Ground-Water Forum is mentioned. In this instance, however, the Ground-Water Forum was consulted prior to the publishing of this paper, and the Forum endorsed it.

The Forum indicated that it would like ORD to provide a list of issue papers and reports to be published in the next six months at each of the biannual TSP meetings. Izraeli asked the Forum members whether they considered the issue papers a valuable resource to RPMs. The members indicated that issue papers are valuable, and Luanne Vanderpool (Region 5) added that she considers the Ground Water Pump and Treat issue paper to be particularly valuable. Kathy Davies (Region 3) suggested that two issue papers be completed each year, which was the Forum's goal in the past. Herb Levine (Region 10) summarized the Forum's consensus opinion: The Ground-Water Forum will prioritize and request additional issue papers from ORD, but will inquire whether two issue papers per year can be completed. Dick Willey (Region 1) suggested copying the ORD request to Rich Steimle (TIO), and Izraeli further suggested copying Steve Luftig (OERR) as well.

ORD Communication and Coordination

Curt Black (Region 10) asked whether ORD is writing EPA protocol on the evaluation of natural attenuation of chlorinated solvents and petroleum hydrocarbons, as was planned at the February TSP meeting. He indicated that ORD is assisting in the writing of the AFCEE protocol, but he does not know if ORD is developing its own protocol. Levine added that ORD had agreed to the Forum's request for the protocol at the February meeting.

The Forum agreed to pose the following questions on communications and coordination during the Tuesday afternoon discussion with the Federal Facilities Forum and ORD:

- 1) What training courses on natural attenuation are being offered, and who is sponsoring them?
- 2) What documents on natural attenuation are being written?
- 3) At which federal facilities is research on natural attenuation being conducted?

The Forum drafted a list of the courses and documents on natural attenuation that are currently being developed:

- 1) Training course on natural attenuation of chlorinated solvents, organized by Jerry Jones (SPRD-Ada).
- 2) Training course on natural attenuation of surface soil and sediment contaminants, organized by Fran Kremer (NRMRL-Cincinnati);
- 3) Remediation Technologies Development Forum (RTDF) protocol on natural attenuation;
- 4) Fact sheets on natural attenuation of petroleum hydrocarbons and chlorinated solvents;
- 5) Workshop on Natural Attenuation of Groundwater Contaminants, organized by Jon Josephs (Region 2);
- 6) Draft OSWER directive on natural attenuation;
- 7) ASTM protocol on natural attenuation;

- 8) Dr. Daniel Pope's (Dynamac Corp.) paper on natural attenuation; and
- 9) Technical protocol by SPRD-Ada that was planned during the February TSP meeting.

Natural Attenuation Coordination

Black mentioned that he, Dick Willey, and Kay Wischkaemper (Region 4) met with John Wilson (SPRD-Ada), Frank Chapelle (USGS), and AFCEE researchers to make on-screen edits to the draft AFCEE document *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater*. Willey noted that SPRD-Ada and AFCEE would like this document to serve as both EPA and AFCEE protocol. Black added that the front page of the document contains a disclaimer that says "This United States Air Force guidance was developed in cooperation with USEPA researchers, but was not issued by the USEPA and does not represent USEPA guidance." The Forum members approved of this disclaimer, and Vanderpool commented that it appeared that the Ground-Water Forum does not philosophically disapprove of issuing technical protocol that supports the draft OSWER directive. Consequently, she asked whether the Forum could conceivably accept the AFCEE document as the EPA's technical protocol.

Willey said that there was an agreement made at the review meeting to incorporate the comments from the three Forum members, and distribute the revised document to the remaining Forum members for their review. Josephs felt that a joint EPA/AFCEE document should not be issued because the U.S. Air Force is pushing natural attenuation as a presumptive remedy, an approach that EPA does not support.

Action Items

- 1) Get an agreement from the heads of the TSP Centers to publish two issue papers per year.
- 2) Copy the letter accompanying the issue paper prioritization list to Rich Steimle and Steve Luftig.
- 3) Have EMS, Inc., maintain a repository of the Ground-Water Forum's correspondence.

Thursday, July 31, 1997

Co-Chair Elections

Izraeli noted that her term as co-chair of the Ground-Water Forum will be over this year, and the Forum should plan to elect her replacement in December. In addition, the Forum should nominate and elect a replacement for Levine, who will be leaving on detail to Hawaii in October for six months. Vanderpool was nominated as a replacement for Izraeli, and Willey was nominated as a replacement for Levine. The Forum plans to discuss the co-chair elections during the next Ground-Water Forum conference call.

Next TSP Meeting

Levine mentioned that he offered to help the Engineering Forum arrange the next TSP meeting (scheduled for February 1998) if the Forum would like to hold the meeting in Hawaii. The Engineering Forum accepted the offer, but acknowledged that obtaining funding for this meeting location would be difficult.

Mallott proposed scheduling the TSP meetings every nine months rather than every six months. Levine replied that the Forum co-chairs prefer to maintain the biannual schedule. Willey expressed interest in scheduling the meetings to occur in the fall and late spring.

Other Meetings

Levine encouraged the Forum members to attend the meeting of the Geological Society of America, scheduled for October 20-23, 1997 in Salt Lake City, and the meeting of the American Geophysical Union scheduled for December 8-12, 1997.

Mallott mentioned that he is a member of the Remediation Division of the Ground-Water Protection Council, which is holding a meeting September 20-24, 1997, in Cleveland. The meeting is being sponsored by OSWER and the private sector. It will address wellhead protection, source water, underground injection control, and remediation. Mallott added that the Remediation Division is new and may not continue beyond the meeting because it does not have the same foundation as the other divisions. The Ground-Water Protection Council is currently deciding whether to focus the meeting on policy or technical presentations. Mallott said that he would prefer to focus on policy.

Interstate Technology and Regulatory Cooperation (ITRC)

Levine said that he is participating on a task force and peer review panel for ITRC that is developing a check list to send to site managers to identify the minimum data available on the chlorinated plumes at their sites. The task force will screen out sites that do not meet minimum data requirements. Levine explained that Lawrence Livermore Laboratories would like to evaluate chlorinated plumes to see if they exhibit a predicted behavior. Livermore plans to evaluate 400 plumes during this calendar year in hope of changing the approach to dealing with plumes. Levine added that John Cherry (University of Waterloo) has declined participation because he believes that the project is "doomed."

Levine suggested that the Ground-Water Forum provide input on the project. He said that a final draft of the methods document is complete and being peer reviewed. As a member of the task force, Levine will have the opportunity to comment on the document. He said that he plans to write a letter with Doug McKay and Tina Hubbard stating their concern with the methods document.

ORD Communication and Coordination

Izraeli said that the Forums have settled on guidelines for communication and coordination between ORD and the Regions when ORD is involved in site work at a federal facility. She noted that the Federal Facilities Forum has drafted a strawman communications strategy. The Forum co-chairs plan to discuss the strategy during the next co-chair conference call.

Issue Papers

According to SPRD-Ada, issue papers are not a priority for the laboratory, so the Ground-Water Forum discussed other mechanisms to produce them. Sakamoto said she liked the idea of the Forum members developing issued papers and having them reviewed by the laboratories. Izraeli explained that it is difficult for the Forums to write issue papers due to time constraints. This has been a problem in the past when the Forum has tried to write papers. Levine suggested tasking EMS, Inc. to lend support in writing issue papers. Dopkin indicated that this would be feasible. Izraeli suggested that Bernie Zavala (Region 10) and Doug Yeskis (Region 5) could write an issue paper with support from EMS. Izraeli agreed to ask Zavala and Yeskis if they have the time and interest to complete a paper.

Izraeli commented that she sees a slight problem with the basic pump and treat issue paper because it is being produced *after* the heat-enhanced pump-and-treat issue paper. Vanderpool suggested discussing the production of issue papers with Rich Steimle and the laboratory directors. She indicated that the Forum will have to revise their strategy if the laboratories do not write the issue papers.

The Forum discussed some tentative topics for issue papers. Fuentes indicated that he had received suggestions for issue papers entitled “Tidal Data Reduction Techniques” and “Site Characterization for the 21st Century.” Willey suggested “Recycling/Reusing Solvents Used in Flushing Techniques.” Izraeli noted that she would like to resurrect the quality assurance papers on field data, due to their renewed importance with the interest in natural attenuation.

Remediation Technologies Development Forum (RTDF)

The Ground-Water Forum agreed to stay involved in the review process for the RTDF Permeable Reactive Barriers workgroup. The Forum planned to ask for a volunteer to lead the review process during the next conference call.

Ground-Water Forum Representation

The Ground-Water Forum agreed to add new language to their bylaws to explain the responsibilities of the co-chairs and the workgroup co-chairs when representing the Forum. Formal positions of the Forum must be communicated only by the co-chairs or workgroup leaders, and the positions must be communicated in writing. Verbal agreements may only be made with consensus of the Ground-Water Forum.

Ground-Water Sampling Workgroup and Forum Participation

The Ground-Water Forum agreed that the Ground-Water Sampling Workgroup must be re-defined. The Forum also agreed that every member must participate in at least one workgroup per year. The Forum expressed general concern that there have been very few new members to the Forum and discussed possible approaches to generate interest in the Regions. Levine said that interest must be generated through the opportunities available from meetings and peer involvement. Sakamoto commented that hesitancy to participate is commonly due to lack of funding and time commitments in the Regions.

Action Items

- 1) Develop an ORD communications strategy with the Federal Facilities Forum.
- 2) Redefine the Ground-Water Sampling Workgroup (membership, leadership, and approach). Discuss this action item during the next Ground-Water Forum conference call.
- 3) Modify the Forum bylaws to explain the responsibilities of the co-chairs and the workgroup co-chairs when representing the Forum. (Levine and Vanderpool)
- 4) Review the RTDF document and establish an RTDF Review Workgroup during the next conference call.
- 5) Contact Bernie Zavala and Doug Yeskis regarding writing an issue paper. (Fuentes and Vanderpool)

- 6) Ground-Water Forum and Federal Facilities Forum will comment on revision 2 of the draft AFCEE protocol on natural attenuation according to the strawman review steps (listed below) proposed by Curt Black. (Black)
- 7) Contact Rich Steimle regarding funding for issue papers. (Levine and Izraeli)
- 8) Write a letter to Clint Hall at SPRD-Ada to thank him and other he laboratory for hosting the TSP meeting. (Davies)
- 9) Write a letter to Jim Woolford supporting Wilson's work on natural attenuation. Copy the letter to Steve Luftig and Rich Steimle. (Fuentes) Ask the co-chairs of the Forums if they will support this letter. (Izraeli)

**Strawman Review
Steps for Revision
2 of the Draft
AFCEE Protocol
on Natural
Attenuation**

- 1) Assemble a Ground-Water Forum and Federal Facilities Forum review team.
- 2) Send out charge to reviewers (to be delivered by Friday, August 8).
- 3) Solicit a list of areas of concern.
- 4) Conduct a review team conference call on Thursday, August 28, to discuss areas of concern to avoid duplication of effort.
- 5) Re-write text blocks by Thursday, September 11.
- 6) Distribute the assembled re-worked sections to the review team by Tuesday, September 16.
- 7) Conduct a conference call on Thursday, September 18, to discuss feedback on the assembled comments and revisions
- 8) Provide John Wilson with the package of comments by Friday, September 26

JOINT FORUMS SESSION

Wednesday, July 30, 1997

**ORD/Program
Coordination and
the Role of the
Technology
Support Program**

Ben Blaney (ORD/NRMRL/Cincinnati) summarized ORD's reorganization and research planning process. In FY 1996, ORD consolidated its organization from 14 laboratories and nine headquarters offices to five laboratories and three headquarters offices. The new ORD structure generally follows EPA's risk-assessment paradigm (exposure assessment, effects assessment, risk assessment, and risk management), with additional offices for administration and science policy.

- The National Exposure Research Laboratory (NERL) is responsible for all exposure-related research, and has absorbed the characterization efforts at the former EMSL-Las Vegas laboratory and the ecosystems program of the former Athens ecological research laboratory. The *Monitoring and Site Characterization* TSC and the Environmental Photographic Interpretation Center, both in Las Vegas, are part of NERL.

- The National Risk Management Research Laboratory (NRMRL) is responsible for most risk-management and associated engineering research. The former Risk Reduction Engineering Laboratory in Cincinnati and Environmental Research Laboratory in Ada are part of NRMRL, and the two associated TSCs (*Engineering and Treatment* and *Ground Water Fate and Transport*) reside in two separate divisions of NRMRL.
- The National Center for Environmental Assessment (NCEA) has consolidated most of ORD's risk assessment research within its three divisions (the former EMSL-RTP and EMSL-Cincinnati and the former Office of Health and Environmental Assessment in Washington). The *Health Risk* TSP remains with NCEA's Cincinnati division.
- The National Health and Environmental Effects Research Laboratory (NHEERL) consolidates most of ORD's health and ecological effects research, including the former ecological laboratories in Gulf Breeze, Duluth, Corvallis, and Narragansett, in addition to the human health research laboratories in RTP.
- The National Center for Environmental Research and Quality Assurance (NCERQA) in Washington manages ORD's grants, centers, and fellowships programs with universities.
- The Office of Science Policy (OSP) in Washington supports the Assistant Administrator through Agency-wide science coordination and oversight of the annual and long-term research planning process.

The administration of each laboratory and center falls to a laboratory director, a deputy director for management, an associate director for health research, an associate director for ecological research, and five assistant directors for each of the program areas (air, water, toxics/pesticides, waste, and "multimedia"). Blaney distributed updated contact lists for the TSCs. The list will soon be available on the TSP Home Page.

Research Planning Process

In addition to the organizational restructuring, ORD significantly revised its research planning process. ORD's research planning is coordinated by five Research Coordination Teams (RCTs)—Waste, Air, Water, Pesticides/Toxics, and "Multimedia." The Multimedia RCT addresses research issues that cross program areas, such as basic health research, pollution prevention, global climate change, and ecological monitoring.

The RCTs develop strategic plans (generally 3-5 year horizons) for major research topics, recommend priorities for budget planning, and coordinate among ORD and Program Offices and Regions. Each RCT is chaired by OSP, and has on it the Assistant Laboratory Director from each ORD laboratory and center, and a representative of ORD's Office of Resources Management and Administration, the Regions, and Program Offices. The Waste RCT consists of:

| | | |
|-----------------------|-----------------------|---------------------------|
| Becki Madison (OSP) | Mike Waters (NHEERL) | Andy Wittner (OSW) |
| Steve Mangion (OSP) | Tom Veirs (NCERQA) | David Wiley (OUST) |
| Ben Blaney (NRMRL) | Desmond Mayes (ORMA) | Bob Mournighan (Region 7) |
| Kevin Garrahan (NCEA) | Jean Schumann (OSWER) | |
| Gareth Pearson (NERL) | Chuck Sands (OERR) | |

Blaney distributed a handout on the *Waste Research Strategy*, which was developed over the past year to structure research through FY2000. He emphasized the appendices in the strategy as most useful to the Forums in terms of identifying research activities.

Blaney noted that the budget planning process for any one fiscal year takes two years. He illustrated the process for FY99. Last November, the Waste RCT sponsored research progress reviews to discuss progress to-date and the status of on-going needs. These reviews were attended by representatives of all the labs and centers that had research underway or planned, as well as by the Program Offices (OSWER, OERR, OUST, OSW, TIO) and the Regions. In December, an Assistant-Administrator-level Program Review took place for each of the four media RCTs. These were led by Bob Huggett from ORD, Elliott Laws from OSWER, and Bill Rice, DRA of Region 7, which is the Lead Region for ORD. The purpose of the Program Review was to hear formal presentations from the Programs and Regions on needs and to discuss openly priority unmet needs.

EPA's Research Coordinating Council met in June to discuss ORD's rankings and recommendations, and the Agency is currently considering the overall budget proposals from all offices. EPA's FY99 budget proposal will be sent to OMB in late September, and after incorporating OMB's comments, will be sent to Congress next January. EPA will respond to Congressional questions and participate in hearings through the latter half of FY98, and Congress should pass the final FY99 budget—and the President should sign it—in September 1998. Shortly thereafter, ORD will develop its annual operating budgets for each lab and center. If there are significant changes in the enacted budget compared to the proposed budget, there will probably be additional opportunities for Program Office and Regional Office involvement.

Blaney noted that the Program and Regional Offices have their most important opportunities to influence ORD's planning by participating in the Progress and Program Reviews and commenting throughout the formal Agency budget formulation process.

Bob Mournighan (Region 7) added that while Region 5 is the Lead Region for Superfund, it delegated the responsibility for Superfund research coordination to Region 7 because Region 7 is the ORD Lead Region. He noted that Region 7 also has a Regional Science Council to deal with ORD issues. Mournighan attended the Progress Review as the representative of Mike Sanderson (Region 7 Superfund Division Director), and spent the month in between briefing Bill Rice and Sanderson as well as coordinating with the other Regions to consolidate their research needs. The Program Review included Steve Gilrein (Region 6, Lead Region for OSW) as well as representatives of Regions 4 and 5, all ORD labs and centers, and all OSWER offices.

Blaney explained that another major change in FY96 was the increase in funds devoted to academic research grants—increasing from about \$20-30 million to over \$100 million. These grants are administered by NCERQA. About \$2-4 million of these grants are associated with Superfund. In FY97, major grant topics included Bioremediation and Subsurface Transport and Fate. NCERQA's Tom Veirs (202-564-6831) is the principal contact for the waste grants, and NCERQA's Home Page (<http://www.epa.gov/ncerqa>) contains information on all the grants and will post results as they become available.

Blaney said that there are three primary ways that Regions can influence research grants: by stressing particularly themes, or "topic areas," for ORD to emphasize (these topic areas are decided during the second and third fiscal quarters for the next fiscal year); by serving on

proposal relevancy reviews, during which every grant proposal ranked “very good” or “excellent” is evaluated for relevancy to EPA’s mission; and by getting on the mailing list to receive all materials associated with a particular grant. Blaney pointed out that NCERQA solicited input from every Regional Administrator, but there was very little response. Fran Kremer (ORD/NRMRL/Cincinnati) added that she was involved in two topic areas, and there was virtually no Regional involvement in the relevancy reviews by knowledgeable Regional personnel. She urged the Forums to encourage their Regions to appoint more appropriate representatives.

Larry Erickson (Great Plains Hazardous Substance Research Center) introduced himself, and noted that the five HSRCs each receive \$1 million annually from ORD to support Superfund research grants and technology transfer of significance to Regions. This \$5 million investment is comparable to NCERQA’s Superfund program, and represents considerable potential. He encouraged the Forums to get involved in the annual grant application review conferences and improve the relevancy of the HSRC’s grants to the Regions’ needs.

Several Forum members expressed concern that ORD was not coordinating with appropriate Regional staff on the planning and budgeting process. Steve Kinser (Region 7) pointed out that Forum members were appointed by their Regional management because of their expertise and because of their knowledge of RPM needs. He expressed some dismay over the fact that less qualified personnel were representing the Regions without sufficient coordination. Erickson and Blaney pointed out, however, that the appointment of Regional coordinators is left to the Regions, and the Forum members would have to go through their Regional management to affect a change.

Dick Willey said that Region 1 has formed a Regional Science Council, encompassing human and ecological health risks, hydrology, and other technical disciplines. The Council is not limited to the Waste Management Division, and works closely with the Regional Scientist to coordinate issues with ORD. He asked if other Regions have similar organizations, and said that he would investigate how much input the Council has into ORD planning.

Mournighan explained that the Regions’ input to ORD’s annual planning process is also undergoing change to reduce and consolidate the frequency of requests for input to the Regions. For the FY99 cycle, Mournighan said that he began to rely upon the minutes of the Forum teleconferences, the TSP semi-annual meetings, TSP issue papers, the CLU-IN Web Site, and the results of the Regional management meetings (ESDs, Branch Chiefs, Division Directors, and Deputy Regional Administrators) to concentrate Regional waste research and technical support needs. From these sources, he prepared draft rankings for Region 7’s Waste Management Division Director. Region 7 then forwarded the preliminary strawman recommendations to the other Regions, and based upon their feedback and coordination with Larry Reed and Dave Bennett of OERR, revised and forwarded the rankings to ORD in time for ORD to consider them prior to the Research Program Reviews. Coordination with other Regions was accomplished throughout this time by teleconferences.

Mournighan said the lessons from this process suggested three ways to improve: (1) coordinate with the TSP Forum Co-Chairs during the strawman preparation; (2) invite the Waste RCT to participate in the Forum meetings; and (3) create a role for Regions and Forums to follow up on project-specific needs to ensure that they are being implemented as desired. Sean Hogan added that the Superfund Technical Liaisons each poll their respective

Regions for research and training needs, and Mournighan agreed that their input to him was an extremely valuable source.

Izraeli said that the Ground Water Forum committed to work with the Waste RCT, but expressed concern that the information and priorities considered during the research planning process was not filtering down to appropriate Regional staff. She also suggested that the National Association of RPMs (NARPM) become involved. She urged that ORD commit to a joint meeting with the TSP and ranking of needs, and asked for a listing of all projects that ultimately receive funding.

Blaney noted that the individual and specific projects recommended by Regions and Programs during the planning process are distilled into broader general topics for consideration. However, during the process, the laboratories and centers are made aware of the specific needs. He added that it might be valuable for the Assistant Laboratory Directors (ALDs) for waste at each laboratory and center participate in meetings like the semi-annual TSP meetings. They could discuss each of the funded project areas and obtain valuable feedback from the Forums.

Bob Stamnes (Region 10) asked what happens to the Forums' recommendations once they are submitted. Mournighan pointed out that the Forums are one voice among several. The recommendations and rankings are sent to the Waste RCT for ultimate review and recommendation to ORD management. Blaney added that the RCTs do not operate by "majority vote," so the number of personnel assigned to the RCTs from various stakeholders do not affect the outcome. Clint Hall (ORD/NRMRL/SPRD/Ada) concurred, and told the Forum members that the Regions and Programs carry considerably more influence on research rankings than any ORD scientist or engineer. He acknowledged, however, that Programs are more influential than the Regions. OSWER input is a strong influence on ORD, and he urged the Regions to coordinate closely with OSWER representatives prior to RCT meetings.

Forum Issue Papers

Ruth Izraeli noted the Forums' frustration in not receiving Issue Papers from the TSCs on a timely basis. She felt that the TSCs have ignored the Forums needs, citing lengthy delays in a number of issue papers and asked for the TSCs to commit to producing at least one new issue paper annually for the Ground Water Forum. She said that the Pump and Treat issue paper, requested in FY94, is still in "draft" and has lost its immediacy after four years.

Blaney pointed out that ORD is strongly committed to the TSP, and has maintained the same allocation of FTEs despite drastic cuts in funding. He said that ORD's Superfund budget was about \$70 million in FY94/95, but reduced to about \$35 million by FY97/98. This cut was supplemented by increased funding from the Technology Innovation Office (TIO) and OERR. OSWER has set site-specific technical assistance as the highest priority for the TSCs, and issue papers, training, and other activities have suffered accordingly. Blaney said that the technical support requests from the Regions continue at a high pace, and he predicted them to continue in areas of natural attenuation, presumptive remedies, treatability studies, and non-site-specific assistance. He felt it would be worthwhile for the Forum co-chairs to meet regularly with the TSC directors to discuss specifics such as issue papers.

Mournighan said that of ORD's \$35 million Superfund budget, all but about \$8 million was earmarked by Congress for specific projects, centers, and grants such as the SITE program.

ORD-wide, there is only \$1.6 million in “discretionary” resources that ORD can allocate to meet all other research and technical support needs.

Izraeli asked if the Engineering Forum wanted the TSCs to commit to an annual issue paper for them, as well. Bob Stamnes replied that the Engineering Forum stopped using the RREL—the Cincinnati engineering laboratory—for their issue papers after the Forum decided in FY94 that RREL was not interested in pursuing issue papers and the papers requested never were written. He said that the Engineering Forum began to produce issue papers themselves and through other sources. Stamnes stressed that the Las Vegas Site Characterization TSC has always been responsive, however, doing everything that was asked of them. He did not believe that the Engineering Forum would want to invest the effort he thought it would take to resume collaborating on issue papers with NRMRL in Cincinnati.

In response, Jerry Jones (ORD/NRMRL/SPRD/Ada) expressed willingness to commit in principle to one issue paper per year, but cautioned that issue papers would continue to receive less priority than site-specific technical support, per OSWER’s instructions. He felt that a formal commitment to produce an issue paper annually might lead to future recriminations should available resources prove inadequate to support that level of effort. He encouraged the Forums to use any alternative sources to produce their issue papers. He told Izraeli that TIO’s support to the TSCs does not include budgetary line-items for issue papers versus technical assistance. Ken Brown (ORD/NERL/CRD/Las Vegas) agreed that TIO emphasized site-specific technical assistance to the TSCs when recent budgets became tight. Brown added that his TSC was working on an issue paper for the Federal Facilities Forum, and had not received any requests recently for issue papers from the other two. Ken Lovelace (OSWER/OERR) agreed that OERR’s guidance to ORD always emphasized site-specific technical support over any other form of assistance. He said that ground-water research in general does have high priority for OERR, but OERR does not dictate specific projects.

Stamnes said he felt it was inefficient to fund ORD to provide repetitive assistance at several sites when, by producing an issue paper, ORD could educate a number of people and resolve problems at many sites. Jones replied that ORD still receives many site-specific requests even after publishing an issue paper. The fact remains that sites have unique characteristics and problems, Regional RPMs have real technical problems dealing with those sites, and the TSC mission is to respond to these problems to the extent that they have funds. Jones said that the Ada TSC receives requests from individual RPMs as well as from the Regional STL, and the only limits to providing assistance are available funds and relevant expertise. ORD TSCs provide quarterly reports to TIO on all site-specific requests from the Regions.

One Forum member cited an instance where information in an issue paper resolved a serious technical problem at a Superfund site, where work had halted for three days, costing \$70 thousand per day. He said that without that issue paper, the stoppage would have continued far longer. Paul Leonard (Region 3) agreed that there is a broad need in the Regions for the kind of state-of-the-art knowledge that the issue papers were designed to provide.

Improved Communications Between ORD and Forums

Izraeli asked the TSCs if ORD could update the 1993 Technical Support Directory, listing laboratory/center technical expertise and phone numbers. Stamnes added that the opportunity to call laboratory experts and receive fast answers was invaluable.

Izraeli then suggested that each Forum teleconference would set aside time for a TSC director to report on the status of issues and activities at his or her TSC. In sequence, then, each TSC would be expected to report about once each quarter. Blaney, Jones, and Brown all agreed that putting the TSCs on the agendas would be very useful.

Action Items

- 1) Mournighan agreed to e-mail lists of all funded projects to the Forum co-chairs beginning with FY98. In order to incorporate the Forums' rankings directly into the Regional strawman process, Mournighan said he would need to obtain Sanderson's approval.
- 2) Izraeli said that the Ground Water Forum would prepare an annual position paper and forward it to each person on the Waste RCT.
- 3) Izraeli said that the Forum co-chairs would emphasize to TIO the need to continue with issue papers.
- 4) Blaney agreed to coordinate the revision of the directory, but said that any Regional request that might require investment of time or resources (other than a telephone consultation) should come through the TSC in order for the requirement to receive adequate attention and reporting.
- 5) Mournighan agreed to coordinate an effort across all Regions to identify all Regional RPMs and OSCs with their sites so that ORD laboratories and centers would know whom to contact if they intended or desired to conduct studies at any NPL site. He suggested that the list could be placed on EPA's Intranet.